

Notice of Allowability

Application No.

09/990,557

Examiner

Christopher P. Grey

Applicant(s)

KIM ET AL.

Art Unit

2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Examiners amendments agreed to on October 18, 2005.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

1. After further review, the initial 35 USC 101 rejection has been withdrawn. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Michael Musella on October 18, 2001.

The application has been amended as follows:

Claim1 (Amended) A method for creating an aperiodic recursive multiplex (ARM) code having a predetermined length by receiving a first sequence having a given length, comprising the steps of:

(a) outputting a third sequence by multiplying the first sequence by a second sequence alternating between +1 and -1, the second sequence being identical in length to the first sequence;

(b) outputting a fourth sequence as the ARM code by time-multiplexing the first sequence and the third sequence, when the length of the fourth sequence is identical to the predetermined length.

Claim 2 (Amended) The method as claimed in claim 1, wherein the first sequence is created by a selected one of possible 2-bit combinations.

Claim 3 (Amended) A method for creating an aperiodic recursive multiplex (ARM) code having a predetermined length by receiving a first sequence having a given length, comprising the steps of:

(a) outputting a third sequence by multiplying the first sequence by a second sequence alternating between +1 and -1, the second sequence being identical in length to the first sequence;

(b) outputting a fourth sequence by time-multiplexing the first sequence and the third sequence.

(c) re-designating the fourth sequence as the first sequence, when the length of the fourth sequence is not identical to the predetermined length, and then returning to step (a); and

(d) outputting the fourth sequence as the ARM code, when the length of the fourth sequence is identical to the predetermined length.

Claim 4 (Amended) The method as claimed in claim 3, wherein the first sequence is created by a selected one of possible 2-bit combinations.

Allowable Subject Matter

2. Claims 1-8 are allowed.

3. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the prior art of record fails to disclose or fairly suggest a **method for creating an aperiodic recursive multiplex code comprising: a multiplier for multiplying a first sequence by, a second sequence which alternates between +1 and -1, to produce a third sequence, where the second and first sequence are identical in length; and a multiplexer for time-multiplexing the first sequence and third sequence until the code having a predetermined length is created.**

Regarding claim 7, the prior art of record fails to disclose or fairly suggest an **apparatus for generating an aperiodic recursive multiplex code comprising: a multiplier for multiplying a first sequence by, a second sequence which alternates between +1 and -1, to produce a third sequence, where the second and first sequence are identical in length; and a multiplexer for time multiplexer for time-multiplexing the first sequence and third sequence; and a controller for re-designating a sequence output from the multiplexer as the first sequence and re-inputting the designated sequence to the multiplier and the multiplexer until the ARM code having the predetermined length is created.**

It is noted that the closest prior art, Gutleber (US 3947674) discloses a method for generating code from a number of code mates. However Gutleber fails to disclose or render obvious the above underlined limitations as claimed.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Grey whose telephone number is (571)272-3160. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571)272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher Grey
Examiner
Art Unit 2667

C. Grey
Oct 19, 2005


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

10/21/05